Paper No. 39

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte LIANGPIN CHEN
and
XINGZHANG F. NIU

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Appeal No. 1997-2898
Application 08/368,239[1]

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ON BRIEF

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Before HAIRSTON, JERRY SMITH, and FLEMING, *Administrative Patent Judges*.

FLEMING, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1] Application for patent filed January 3, 1995. According to Appellants, the application is a continuation of Application 08/149,141, filed November 3, 1993, now abandoned, which is a continuation of Application 07/618,187, filed November 26, 1990, now abandoned.

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This is a decision on appeal from the final rejection of

claims 1-25, all of the claims pending in the application. On

page 2 of the answer, the examiner indicated that claim 18 is

objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form. thus,

claims 1-17 and 19-25 remain before us on appeal.

The claimed subject matter is directed to an apparatus

for computer-aided design (CAD) of three-dimensional drawings.

Specifically, the CAD system provides predetermined relation-

ships that enable the user to alter the solid geometry based

on those relationships.

Independent claim 1 is reproduced as follows:

1. Apparatus for performing a set of display operations
to modify a three dimensional drawing on a graphic display,
comprising:

(a) means for storing a plurality of planes for defining
a three dimensional drawing on a graphic display;

(b) means for selecting a first plane based on a first
aspect of the three dimensional drawing;

(c) means for defining a variable plane based on a second
aspect of the three dimensional drawing;

(d) means for changing the distance between the first
plane and the variable plane; and

(e) means for modifying the drawing to reflect the changed distance.

The references relied on by the Examiner are as follows:

Himelstein et al. (Himelstein)   5,124,693   June 23, 1992
                                (effective filing date Oct. 29, 1985)

J. E. Fuller (Fuller), <u>USING AUTOCAD</u>®, 19-3-19-4 (3d ed., New York, Delmar Publishers, Inc., 1989).

Claims 1-3, 5, 9-11, 13, 17, and 19-25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Himelstein. Claims 4, 6-8, 12, and 14-16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Himelstein in view of Fuller.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the brief and the answers[2] for the details thereof.

OPINION

After a careful review of the evidence before us, we will sustain the Examiner's rejection of claims 1-3, 5, 7, 8-11, 13, 15-17 and 19-25 under 35 U.S.C. § 103, but we will reverse the rejection of claims 4, 6, 12, and 14 on appeal for the reasons set forth *infra*.

At the outset, we note that Appellants have indicated on page 5 of the brief that claims 1-25 stand or fall together, but in addition set forth the following groups:

    Group B – claims 4, 12, and 20;
    Group C – claims 6 and 14;
    Group D – claims 8 and 16;
    Group E – claims 17-20;
    Group F – claim 18.

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[2] The Examiner mailed an Examiner's answer on February 27, 1997 and a supplemental Examiner's answer on June 30, 1999.

Group F containing claim 18 is not considered in this appeal

as the Examiner has withdrawn the rejection thereof. 37 CFR §

1.192(c)(7) (July 1, 1995) **as amended at** 60 Fed. Reg. 14518

(March 17, 1995), which was controlling at the time of

Appellants' filing the brief, states:

> For each ground of rejection which
> appellant contests and which applies to a
> group of two or more claims, the Board
> shall select a single claim from the group
> and shall decide the appeal as to the
> ground of rejection on the basis of that
> claim alone unless a statement is included
> that the claims of the group do not stand
> or fall together and, in the argument under
> paragraph (c)(8) of this section, appellant
> explains why the claims of the group are
> believed to be separately patentable.
> Merely pointing out differences in what the
> claims cover is not an argument as to why
> the claims are separately patentable.

Appellants have argued separately the claims in the following

groups:

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Group A - Claims 1-3, 5, 7, 9-11, 13, 15, and 21-25;
Group B - Claims 4 and 12;
Group C - Claims 6 and 14;
Group D - Claims 8 and 16;
Group E - Claims 17, 19, and 20.
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Thus, we will consider the claims to stand or fall as per
these argued groups. We will treat claims 1, 4, 6, 8 and 17
as the representative claims for each group.

Appellants argue on page 9 of the brief that Himelstein
contains no description or suggestion of selecting a plane
within a three-dimensional drawing. Appellants argue that
Himelstein only generates perspective three dimensional
objects by setting a vanishing point and a depth. Further,
Appellants argue that Himelstein only discloses selecting
objects, not planes within a three-dimensional object.

Before we can address Appellants arguments, we must first
determine the scope of Appellants' claim 1. "[T]he name of
the game is the claim." *In re Hiniker Co.*, 150 F.3d 1362,
1369, 47 USPQ2d 1523, 1529 (Fed. Cir 1998). "Analysis begins
with a key legal question—*what* is the invention *claimed*? . . .
Claim interpretation ... will normally control the remainder
of the decisional process." *Panduit Corp. v. Dennison Mfg.
Co.*, 810 F.2d 1561, 1567-68, 1 USPQ2d 1593, 1597 (Fed. Cir.),
cert. denied, 481 U.S. 1052 (1987). Claims will be given

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their broadest reasonable interpretation consistent with the

specification, and limitations appearing in the specification

are not to be read into the claims. *In re Etter*, 756 F.2d

852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985).

We note that Appellants' claim 1 recites "means for selecting a first plane based on a first aspect of the three dimensional drawing." The claim does not recite any explicit activity by the CAD system for selecting a plane. Rather, relying on the Appellants' specification, beginning on page 12, selection steps are performed by the user.[3] Thus, the claimed means for selecting a first plane is merely the device allowing the user to make a selection as to what plane will be considered the first plane.

The Examiner had stated in an Office Action that Himelstein implicitly teaches storage and selection of planes. The Appellants argued on page 9 of the brief that it is improper to infer the existence of claim limitations. We agree that the Examiner's language is not artful, but it is clear that the Examiner intended to argue that the limitation is inherent within the teachings of the reference.

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[3] We note that Appellants do not argue that the claim is to be interpreted by looking to the specification for the corresponding structure, material, or acts described therein, and equivalents thereof, to the extent that the specification provides such disclosure.

Himelstein does contain a description of selecting a
plane within a three-dimensional drawing, and not just
selecting objects. In Himelstein, when the user creates a
three-dimensional object, that user creates a front polygon
which is a two-dimensional plane. See paragraph bridging
columns 3 and 4. By creating that front polygon, the user has
a means for selecting that polygon as a first plane. The user
selectable vanishing point and depth enables the CAD system to
in turn generate a three-dimensional drawing using the front
polygon. The generated three-dimensional drawing includes a
back polygon, i.e., variable plane. The depth of the drawing
can be changed by dragging a point on the object, and the
drawing is modified to reflect the change. See column 4,
lines 46-57. We find that providing the user with the
capability of creating the front polygon meets the Appellants'
claimed language "means for selecting a first plane" and
thereby reads on Appellants' limitations recited in claim 1.

Appellants argue on page 12 of the brief that neither
Himelstein nor Fuller discloses selecting faces of a three-
dimensional object, much less selecting multiple parent/offset

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plane pairs and changing the distances between the respective

pairs.

Claim 8 "means for defining two pairs of parallel planes,

the parallel planes including first and second parent planes

for indicating two fixed faces of the three dimensional

drawing and first and second offset planes for indicating two

variable faces of the three dimensional drawing, the first

parent plane being parallel with the first offset plane, the

second parent plane being parallel with the second offset

plane." More specifically, the claim recites two pairs of

parent/offset planes in a three-dimensional drawing. The

claim does not recite selecting faces of a three-dimensional

object.

Himelstein discloses that more than one graphic object
can be created in a graphic space. See column 5, lines 21-24.
Each graphic object is created by the user with a front
polygon (i.e., parent face) and based on a user provided depth
would be drawn with a corresponding back polygon (i.e., offset
face). For each graphic object, when the user creates a front
polygon such action constitutes selecting that polygon as a
parent face. We find that providing more than one graphic
object in a graphic space where each graphic object has a
front polygon and a back polygon meets the Appellants' claimed
language "means for defining two pairs of parallel planes" and
thereby reads on Appellants' limitations in claim 8.

Appellants argues on page 13 of the brief that neither
Himelstein nor Fuller discloses means for determining a
distance between the first face and the offset face.

Claim 17 recites a limitation of "determining a distance
between the first face and the offset face". Appellants'
disclosure on page 13 provides an embodiment where distances
between faces are calculated.   However, Appellants chose to
recite the broader term of "determining." One way of

determining a distance between planes is by calculating a

distance between planes. Other ways of determining a distance

include retrieving a distance value from memory, which is what

is taught in Himelstein. We find that retrieving a stored

depth value meets the claimed limitation of "determination

means for determining a distance" and thereby reads on

Appellants' limitations in claim 17.

Appellants argue on page 11 of the brief that Fuller does

not disclose selecting planes on the three-dimensional objects

and changing the distance between such planes. Specifically,

Appellants argue that neither Himelstein nor Fuller teaches

the claimed limitation of selecting a parent plane from a

first object, a variable plane from a second object, and

changing the distance between the planes, modifying the

display to reflect the changed distance. Appellants further

argue that neither Himelstein nor Fuller provides any motive

for modifying Himelstein to arrive at the claimed invention of

joining two three-dimensional objects by selecting planes on

the objects and modifying the distance between the selected

planes.

Claims 4, 6, 12 and 14 recite two, three-dimensional
drawings and not objects. Specifically, claims 4 and 12
recite defining a plane from a second three-dimensional
drawing. Claims 6 and 14 recite joining two, three-
dimensional drawings.

Himelstein does not disclose adjusting the distance
between a second three-dimensional drawings' variable plane
and another three-dimensional drawings' plane. Himelstein
does not provide any indication that there would be
adjustments made to one three-dimensional drawing that have a
direct relationship to adjustments made to another three-
dimensional drawing. The graphic drawings and graphic spaces
in Himelstein are independent. Fuller does not teach a
correction to this deficiency. We find that Himelstein fails
to teach the claimed limitations of "means for defining a
plane from a second three-dimensional drawing as the variable
plane" and "means for joining two, three-dimensional
drawings," and that Fuller fails to correct those
deficiencies. Thus, the references do not read on the
limitations of claims 4, 6, 12 and 14.

In view of the foregoing, the decision of the Examiner rejecting claims 1-3, 5, 7-11, 13, 15-17, and 19-25 under 35 U.S.C. § 103 is affirmed; however, the decision of the Examiner rejecting claims 4, 6, 12, and 14 under 35 U.S.C. § 103 is reversed.

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        No time period for taking any subsequent action in

connection with this appeal may be extended under 37 CFR §

1.136(a).

                        AFFIRMED-IN-PART

                KENNETH W. HAIRSTON   )
                Administrative Patent Judge   )
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)
)   BOARD OF PATENT
                JERRY SMITH   )   APPEALS AND
                Administrative Patent Judge   )   INTERFERENCES
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                MICHAEL R. FLEMING   )
                Administrative Patent Judge   )

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